WHAT IS CLAIMED IS:

1. A method for manufacturing a semiconductor device, comprising the steps of:

measuring a thickness of a film formed on a layer with an alignment mark; and

exposing a photoresist formed on the film, wherein

said step of exposing the photoresist includes a step of controlling a correction of misalignment during exposure based on the thickness of the film.

2. The method for manufacturing a semiconductor device according to claim 1, wherein

a mutual relation between a thickness of the film and an amount of the misalignment of a pattern transferred on the photoresist by the exposure against the alignment mark is calculated in advance; and

a misalignment is corrected based on the mutual relation in said step of controlling the correction.

3. A method for manufacturing a semiconductor device, comprising the steps of:

forming a film on a layer with an alignment mark;

coating a photoresist on the film;

exposing the photoresist;

patterning the photoresist by developing the photoresist; and

processing the film using the photoresist as a mask, wherein

said step of exposing the photoresist includes a step of correcting misalignment based on a thickness of the film.

4. The method for manufacturing a semiconductor device according to claim 3, wherein

a mutual relation between a thickness of the film and an amount of the misalignment of a pattern transferred on the photoresist by the exposure against the alignment mark is calculated in advance,

the method comprises the step of measuring the thickness of the film between said step of forming the film and said step of coating the photoresist, and

said step of exposing the photoresist includes a step of correcting the misalignment based on the mutual relation.

5. The method for manufacturing a semiconductor device according to claim 1, wherein

the film is a film which transmits lights.

6. The method for manufacturing a semiconductor device according to claim 3, wherein

the film is a film which transmits lights.

7. The method for manufacturing a semiconductor device according to claim 1, wherein

the film is a silicon oxide film or a silicon nitride film.

8. The method for manufacturing a semiconductor device according to claim 3, wherein

the film is a silicon oxide film or a silicon nitride film.

9. The method for manufacturing a semiconductor device according to claim 1, wherein

misalignment of Wafer Scaling is corrected as the correction of misalignment.

10. The method for manufacturing a semiconductor device according to claim 3, wherein

misalignment of Wafer Scaling is corrected as the correction of misalignment.

11. The method for manufacturing a semiconductor device according to claim 1, wherein

at least one kind of misalignment selected from a group of Wafer Offset, Wafer Rotation, Chip Rotation, and Chip Magnification is corrected as the correction of the misalignment.

12. The method for manufacturing a semiconductor device according to claim 3, wherein

at least one kind of misalignment selected from a group of Wafer Offset, Wafer Rotation, Chip Rotation, and Chip Magnification is corrected as the correction of the misalignment.

13. An apparatus for manufacturing a semiconductor device, comprising:

a film thickness measure for measuring a thickness of a film formed on a layer with an alignment mark;

an aligner for exposing a photoresist formed on the film; and

an alignment controller for controlling a correction of misalignment in the aligner based on the thickness measured by said film thickness measure when the photoresist is exposed.

14. The apparatus for manufacturing a semiconductor device according to claim 13, wherein

said alignment controller includes a storage for storing a mutual relation calculated in advance between a thickness of the film and an amount of the misalignment of a pattern transferred on the photoresist by the exposure against the alignment mark, and

said alignment controller corrects the misalignment based on the mutual relation.

15. The apparatus for manufacturing a semiconductor device according to claim 13, wherein

said alignment controller corrects misalignment of Wafer Scaling as the correction of the misalignment.

16. The apparatus for manufacturing a semiconductor device according to claim 13, wherein

said alignment controller corrects at least one kind of misalignment selected from a group of Wafer Offset, Wafer Rotation, Chip Rotation, and Chip Magnification as the correction of the misalignment.

17. A program product for making a computer control an operation of an aligner which exposes a photoresist, the program product comprising:

a first computer readable program code means for reading out a mutual relation from a storage which stores the mutual relation between a thickness of a film and an amount of misalignment of a pattern transferred on a photoresist by exposure against an alignment mark, the mutual relation being calculated in advance, when a thickness of a film on which the photoresist is formed is inputted; and

a second computer readable program code means for controlling a correction of misalignment in the aligner based on the thickness of the film.

18. The program product according to claim 17, wherein

the computer is made to correct misalignment of Wafer Scaling as the correction of misalignment by said second computer readable program code means.

19. The program product according to claim 17, wherein

the computer is made to correct at least one kind of misalignment selected from a group of Wafer Offset, Wafer Rotation, Chip Rotation, and Chip Magnification as the correction of misalignment by said second computer readable program code means.

20. A computer readable storage medium storing a computer program code means for making a computer

control an operation of an aligner which exposes a photoresist, the computer program code means, comprising:

a first computer readable program code means for reading out a mutual relation from a storage which stores the mutual relation between a thickness of a film and an amount of misalignment of a pattern transferred on the photoresist by exposure against an alignment mark, the mutual relation being calculated in advance, when a thickness of a film on which the photoresist is formed is inputted; and

a second computer readable program code means for controlling a correction of misalignment in the aligner based on the thickness of the film.

21. The computer readable storage medium according to claim 20, wherein

the computer is made to correct misalignment of Wafer Scaling as the correction of misalignment by said second computer readable program code means.

22. The computer readable storage medium according to claim 20, wherein

the computer is made to correct at least one kind of misalignment selected from a group of Wafer Offset, Wafer Rotation, Chip Rotation, and Chip Magnification as the correction of the misalignment by said second computer readable program code means.